Please amend the Claims as follow:

Claims 1-20 (Canceled)

21. (Original) An input interface system for mapping an asynchronous stream of data packets, each comprising a header portion and a payload portion, from at least one source to at least one destination, said system comprising:

a Common Time Reference (CTR), divided into a plurality of contiguous periodic super cycles each comprised of at least one contiguous time cycles each comprised of at least one contiguous time frame (TF);

at least one synchronous virtual pipe (SVP) having a subset of predefined time frames uniquely associated therewith;

at least one queue wherein each queue is associated with a respective one of the SVPs;

means for analyzing the header potions of the asynchronous data packets;

means for storing the analyzed data packets in respective queues responsive to the means for analyzing;

a link coupled to the destination; and

an SVP Forwarding Controller, comprising a second memory for storing SVP schedules, and for forwarding, to the link, respective ones of the asynchronous data packets from respective ones of the queues responsive to the respective SVP schedule and the CTR.

22. (Original) The system as in claim 21, wherein there are a plurality of SVPs, and wherein there are a plurality of respective associated queues.

23. (Original) The system as in claim 21, wherein the data packets are forwarded out of the respective one of the queues during predefined time frames in a cyclically recurring order.

24. (Original) The system as in claim 23, wherein the cyclically recurring order is a predefined number of at least one time cycle.

25. (Original) The system as in claim 23, wherein the cyclically recurring order is a predefined number of at least one super cycle.

26. (Original) The system as in claim 23, wherein the cyclically recurring order is a summation of a predefined number of time frames plus a predefined number of time cycles plus a predefined number of super cycles.

27. (Original) The system as in claim 26, wherein the recurring order starts at an arbitrary point of time in the CTR.

28. (Original) The system as in claim 21, wherein the link is comprised of at least one of a plurality of channels;

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wherein the SVP Forwarding Controller provides mapping for forwarding of the respective data packets from a respective one of the queues to a respective one of the channels during selected respective ones of the time frames, responsive to the SVP schedules and the CTR.

29. (Original) The system as in claim 28, wherein the SVP Forwarding Controller is comprised of a plurality of SVP forwarding controllers.

30. (Original) The system as in claim 29, wherein each of the plurality of SVP Forwarding Controllers is associated with at least one of the channels.

31. (Original) The system as in claim 29, wherein there are a plurality of sets of queues, each set comprising at least one queue, wherein each set is associated with one respective one of the SVP Forwarding Controllers.

32. (Original) The system as in claim 21, wherein there are a plurality of separate and independent streams of asynchronous data packets.

33. (Original) The system as in claim 32, wherein there are a plurality of SVP Forwarding Controllers each associated with at least one of the plurality of asynchronous data streams.

34. (Original) The system as in claim 33, wherein there are a plurality of sets of queues, each set comprising at least one queue, wherein each set is associated with one respective one of the SVP Forwarding Controllers.

35. (Original) The system as in claim 32, wherein there are a plurality of the means for analyzing;

wherein each of the means for analyzing provides analysis of at least one of the plurality of streams of asynchronous data packets.

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36. (Original) The system as in claim 32, wherein there are a plurality of means for analyzing; wherein each of the plurality of streams is associated with at least one of the means for analyzing.

37. (Original) An input interface system for mapping an asynchronous stream of data packets, each comprising a header portion and a payload portion, from at least one source to at least one destination, said system comprising:

a Common Time Reference (CTR), divided into a plurality of contiguous periodic super cycles each comprised of at least one contiguous time cycles each comprised of at least one contiguous time frame (TF);

at least one synchronous virtual pipe (SVP) having a subset of predefined ones of the time frames uniquely associated therewith;

a plurality of queues wherein each queue is associated with a respective one of the SVPs, and wherein each of the time frames is associated with one of the queues;

means for analyzing the header portions of the asynchronous data packets;

means for storing the analyzed data packets in respective queues responsive to the means for analyzing;

a link coupled to the destination; and

a forwarding controller responsive to the CTR for forwarding a respective one of the data packets from the respective one of queues that is associated with the respective time frame to the link.

38. (Original) The system as in claim 37,

wherein each of the queues is subdivided into a Constant Bit Rate (CBR), a Variable Bit Rate (VBR), and a best efforts (BE) queue;

wherein the means for analyzing is further comprised of a controller and a scheduling table, and provides for identifying respective ones of the data packets as CBR, VBR, and BE;

wherein the means for storing provides for storage of the respective data packets in the respective CBR, VBR, and BE queues for an associated respective one of the queues associated with an associated respective one of the time frames, responsive to the means for analyzing.

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39. (Original) The system as in claim 38, wherein the output from the respective ones of the queues is prioritized to provide first for output from the respective one of the queue's CBR queue, then from the respective one of the queue's VBR queue, and then from the respective one of the queue's BE queue.

40. (Original) The system as in claim 39, wherein in one case, certain ones of the data packets from the CBR, VBR, and BE queues for the respective one of the time frames are not output during a respective associated one of the time frames, the system further comprising:
a rescheduling controller for detecting the one case and for rescheduling the certain ones of the data packets.

41. (Original) The system as in claim 40, wherein the rescheduling is provided responsive to the controller in the means for analyzing.

42. (Original) The system as in claim 38, wherein in one case during at least one given time frame, certain ones of the data packets from the respective SVP are not output, the system further comprising:

a rescheduling controller for detecting said one case, and providing for rescheduling of the certain ones of the data packets for a next available one of the subset of time frames associated with the respective SVP.

43. (Original) The system as in claim 37, wherein the data packets are forwarded out of the respective queues during predefined one of the time frames in a cyclically recurring order.

44. (Original) The system as in claim 43, wherein the cyclically recurring order is a predefined number of at least one time cycle.

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45. (Original) The system as in claim 43, wherein the cyclically recurring order is a predefined number of at least one super cycle.

46. (Original) The system as in claim 43, wherein the cyclically recurring order is a summation of a predefined number of time frames plus a predefined number of time cycles plus a predefined number of super cycles.

47. (Original) The system as in claim 37, wherein the Forwarding Controller is comprised of a plurality of forwarding controllers, wherein each of the plurality of forwarding controllers is associated with at least one of the channels.

48. (Original) The system as in claim 47, wherein there are a plurality of sets of queues, each set comprising at least one queue, wherein each set is associated with a respective one of the forwarding controllers.

49. (Original) The system as in claim 47, wherein there are a plurality of separate and independent streams of asynchronous data packets.

50. (Original) The system as in claim 49, wherein there are a plurality of means for analyzing each associated with at least one of the plurality of asynchronous data streams.

51. (Original) The system as in claim 50, wherein there are a plurality of sets of queues, each set comprising at least one queue, wherein each set is associated with a respective one of the forwarding controllers.

52. (Original) The system as in claim 51, wherein each of the means for analyzing provides analysis of at least one of the plurality of streams of asynchronous data packets.

53. (Canceled)

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54. (Original) The control system as in claim 37,

wherein the CTR is Coordinated Universal Time (UTC) standard; and

wherein the super cycle is one of a single UTC second, a predefined integer number of UTC seconds, and a fraction of one UTC second.

55. (Original) A communications system, comprising:

means for mapping an asynchronous stream of data packets, each comprising a header portion and a payload portion, through an input interface system via a communications link from at least one source to at least one switching subsystem;

a Common Time Reference (CTR), divided into a plurality of contiguous periodic super cycles each comprised of at least one contiguous time cycles each comprised of at least one contiguous time frame (TF);

wherein the input interface subsystem is comprised of:

at least one synchronous virtual pipe (SVP) having a subset of predefined time frames uniquely associated therewith;

at least one queue wherein each queue is associated with a respective one of the SVPs;

means for analyzing the header potions of the asynchronous data packets;

means for storing the analyzed data packets in respective associated queues responsive to the means for analyzing; and

an SVP Forwarding Controller, comprising a second memory for storing SVP schedules, and for forwarding, to the link, respective ones of the asynchronous data packets from respective ones of the queues responsive to the SVP schedule and the CTR.

56. (Original) The system as in claim 55, wherein there are a plurality of SVPs, and wherein there are a plurality of respective associated queues.

57. (Original) The system as in claim 55, wherein the data packets are forwarded out of the respective queues to the link during predefined time frames in a cyclically recurring order.

58. (Original) The system as in claim 57, wherein the cyclically recurring order is a predefined number of at least one time cycle.

59. (Original) The system as in claim 57, wherein the cyclically recurring order is a predefined number of at least one super cycle.

60. (Original) The system as in claim 57, wherein the cyclically recurring order is a summation of a predefined number of time frames plus a predefined number of time cycles plus a predefined number of super cycles.

61. (Original) The system as in claim 60, wherein the recurring order starts at an arbitrary point of time in the CTR.

62. (Original) The system as in claim 55, wherein the link is comprised of at least one of a plurality of channels;

wherein the SVP Forwarding Controller provides mapping for forwarding of the respective data packets from a respective one of the queues to a respective one of the channels during selected respective ones of the time frames, responsive to the SVP schedules and the CTR.

63. (Original) The system as in claim 55, wherein there are a plurality of separate and independent streams of asynchronous data packets.

64. (Original) The system as in claim 63, wherein there are a plurality of SVP Forwarding Controllers each associated with at least one of the plurality of asynchronous data streams.

65. (Original) The system as in claim 55, wherein the switching subsystem is comprised of at least one input port, at least one output port, and a switching fabric for coupling a respective selected one of the input ports to a respective selected one of the output ports.

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66. (Original) The system as in claim 65, wherein the at least one input port is further comprised of an alignment subsystem for aligning timing for the data packets received at the input port, relative to the CTR.

67. (Original) The system as in claim 66, wherein the alignment subsystem provides for aligning the timing for each time frame for a set comprising the data packets received at the input port during the respective one of the time frames, the system further comprising:
means for scheduling the transfer of the respective set of the data packets during a subsequent time frame associated with the respective input port.

Claims 68-81 (Canceled)

82. (Original) An input interface method comprising:

mapping an asynchronous stream of data packets, each comprising a header portion and a payload portion, from at least one source to at least one destination;

providing a Common Time Reference (CTR), divided into a plurality of contiguous periodic super cycles each comprised of at least one contiguous time cycles each comprised of at least one contiguous time frame (TF);

providing at least one synchronous virtual pipe (SVP) having a subset of predefined ones of the time frames uniquely associated therewith;

providing a plurality of queues, wherein each queue is associated with a respective one of the SVPs, and wherein each of the time frames is associated with one of the queues;

analyzing the header portions of the asynchronous data packets;

storing the analyzed data packets in respective queues responsive to the means for analyzing;

providing a link coupled to the destination;

dividing each of the queues into a Constant Bit Rate (CBR) queue, a Variable Bit Rate (VBR) queue, and a best effort (BE) queue;

identifying respective ones of the data packets as CBR data packet, VBR data packet, and BE data packet;

storing the respective data packets in the respective CBR, VBR, and BE queues for a respective queue associated with a respective time frame, responsive to the identifying and analyzing; and

forwarding a respective one of the data packets from the respective one of queues that is associated with the respective time frame responsive to the CTR.

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83. (Original) The method as in claim 82, further comprising:
prioritizing the output from the respective one of the queues to provide first for output from the respective one of the queue's CBR queue, then from the respective one of the queue's VBR queue, and then from the respective one of the queue's BE queue.

84. (Original) The method as in claim 83, further comprising:

determining which certain ones of the data packets from the CBR, VBR, and BE queues for the respective one of the time frames are not output during a respective associated one of the time frames; and
detecting and rescheduling the certain ones of the data packets.

85. (Original) The method as in claim 82, wherein each SVP is associated with at least one Pipe ID (PID).

86. (Original) The method as in claim 85, wherein the PID is one of the following: explicitly contained in a field of the data packet header portion, implicitly given by an Internet protocol (IP) address, Internet protocol group multicast address, a combination of values in the IP address and transport control protocol (TCP), a user datagram protocol (UDP) header, an MPLS label, an asynchronous transfer mode (ATM) virtual circuit identifier (VCI), and an ATM virtual path identifier (VPI), a combination of VCI and VPI.

87. (Canceled)

88. (Canceled)

89. (Original) The method as in claim 82, wherein the forwarding of the data packets during each of the time frames is performed from the CBR, VBR, and BE queues.

90. (Original) The method as in claim 89, further comprising:
inserting a delimiter between data packets that are transmitted within the same time frames.

91. (Original) The method as in claim 90, wherein the inserting of the delimiter is done between at least one of: CBR data packet and VBR data packet, CBR data packet and BE data packet, VBR data packet and CBR data packet, VBR data packet and BE data packet, BE data packet and CBR data packet, BE data packet and VBR data packet.